18. The method for ensuring proper toe-heel insertion of a detachable printer component of claim 16, wherein said detachable printer component is an ink reservoir.

19. The method for ensuring proper toe-heel insertion of a detachable printer component of claim 16, further including the step of biasing the cover to a neutral position.

20. The method for ensuring proper toe-heel insertion of a detachable printer component of claim 16, wherein the printer is an inkjet printer having a carriage, the detachable printer component is an ink reservoir, and the mount is operably secured to the carriage.

REMARKS

A first Office Action, dated March 18, 2002, rejects pending claims 1-20. Claims 1, 9-12, and 15 have been rewritten herein. Reconsideration is respectfully requested in light of the amendments and the following remarks.

Formalities

Applicants have corrected the examiner noted discrepancies with the drawings and specification. Namely, missing spaces between element names and element numbers in the specification have been corrected, and figures 12 and 13 have been corrected to include element number 114 (handle), and better identify element numbers 120 (moment arm) and 118 (moment arm).

Allowable Subject Matter

The examiner has objected to clams 9, 10, and 15 as being dependent upon rejected base claims, but they would be allowable if rewritten in independent format and including all of the limitations of their corresponding base claims and any intervening claims. The amendments herein comply with the examiner's grounds for allowability.

In particular, claims 9, 10 and 15 have been amended to place them into independent format and to include all of the limitations of their respective base claims

and related intervening claims. Accordingly, these claims should now be in condition for allowance.

Claim Rejections Under 35 USC § 102(e)

Applicants respectfully traverse the examiner's rejection of claims 1-6, 11, 12, 14 and 16-20 as being anticipated by Kotaki et al. (U.S. Pat. No. 5,619,239). Kotaki et al. discloses a fundamentally different structure and method.

As explained more fully in the specification of the present application, among other benefits, the cover structure of the present application facilitates proper toe-heel insertion of a detachable printer component into its corresponding mount on the printer.

In contrast and as shown in the below figures, the structures of Kotaki et al. require that the rear bottom corner portion (P3) be inserted into the mounting chamber first as shown below:

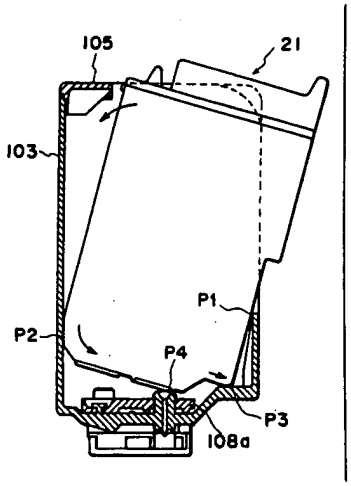

FIG. 6 of Kotaki et al. (U.S. Pat. No. 5,619,239).

Then, the forward bottom corner portion (P2) is urged in the direction of the adjacent arrow (FIG. 6) while the forward top corner (P5) is simultaneously wedged beneath top wall 105 as shown below:

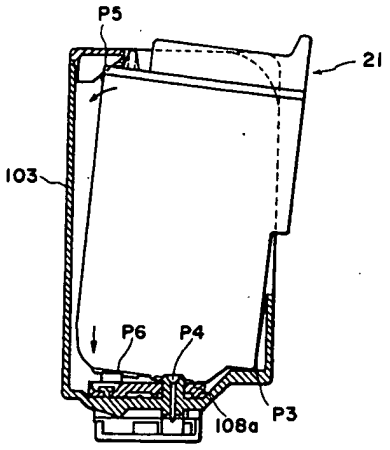

FIG. 8 of Kotaki et al. (U.S. Pat. No. 5,619,239).

Claim 1:

Turning to the claims of the present application, claim 1 of the present application specifically requires "a cover operably secured to said mount extending partially over said toe-end of said detachable printer component when said detachable printer component is secured to said mount defining a neutral position of the cover with respect to the mount such that in order to allow said toe-end to operably engage said mount, said toe-end must be positioned under said cover such that said top surface operably engages said cover **before** said back end is secured to said mount." (emphasis added).

Claim 11:

Similarly, claim 11 requires "a cover operably secured to said mount extending partially over said ink reservoir chamber such that in order to allow said toe-end to operably engage said mount, said toe-end must be positioned under said cover such that said top surface engages said cover and within said ink reservoir chamber **before** said back end is secured to said mount." (emphasis added).

Claim 16:

Also, method claim 16 requires the steps of first "inserting the toe-end of the detachable printer component into the mount and below the cover to operably engage the toe-end to the mount; and," and then, "lowering the back end of the detachable printer component to the mount to operably engage the back end to the mount." (emphasis added).

As best shown in FIGS. 6 and 8 of Kotaki et al., Kotaki et al. discloses no such structures or methods, and in fact teaches away from these claimed elements by

requiring the rear bottom corner portion (P3) of the ink cartridge to be inserted into the mounting chamber before the forward bottom corner portion (P2), and then wedging the upper surface of the ink cartridge below top wall (105).

Moreover, Kotaki et al. relies on the rigidity of the top wall (105), and the final step of wedging the top surface of the ink cartridge below this top wall (105) in order to secure the ink cartridge in place. No structure is disclosed to operably engage the rear bottom corner (P3) of the ink cartridge with any mounting portion. In other words, but for the wedging forces provided by the top wall (105), the ink cartridge in Kotaki et al. would not be operably secured within a mount. Claim 1 of the present application specifically requires "a mount secured to the printer for detachably receiving the printer component by operably engaging said toe-end and said back end of said detachable printer component." (emphasis added) Claim 11 includes a similar limitation. Kotaki et al. is missing these essential claim limitations.

Since Kotaki et al., neither teaches nor suggests these essential elements of independent claims 1, 11 and 16, they cannot be rendered obvious or anticipated by this reference, and they should be allowed. Moreover, since dependent claims 2-8, 12-14, and 17-20 depend on these now allowable claims, they too should be in condition for allowance.

Claim Rejections Under 35 USC § 103

Applicants respectfully traverse the examiner's rejection of claims 7, 8 and 13 as being rendered obvious by Kotaki et al. (U.S. Pat. No. 5,619,239) in view of Pinkernell et al. (U.S. Pat. No. 4,907,018).

Neither of these references, alone or in combination, teach or suggest the elements of the present claims. As previously noted, Kotaki et al. discloses an ink cartridge operably secured to a mount by wedging a top surface of the ink cartridge below a wall as a last step in securing the ink cartridge in place. Similarly, the spring 62 in Pinkernell et al. performs the same function as the wall in Kotaki et al.

While the spring in Pinkernell et al. does deflect to allow the ink cartridge to be wedged beneath it, Pinkernell et al., like Kotaki et al., neither teaches nor suggests the combination of a mounting portion for operably engaging the toe-end and back of a detachable printer component and a pivoting cover that is positioned to require that

the detachable ink reservoir be inserted into the mount toe-end first beneath the cover, before the back end can operably engage the mount.

Since these teachings are missing from these references of record, they cannot render claims 7, 8 and 13 obvious. Accordingly, they should be allowed.

In view of the foregoing, applicants submit that all of the currently pending claims are in condition for allowance, and respectfully requests that the case be passed to issuance. If the Examiner has any questions, he is invited to contact applicants' attorney at the below-listed telephone number.

Respectfully submitted,

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Attachment A to Amendment
(Redlined amendments to specification)

In the next two paragraphs beginning on page 8, line 18:

The pivoting connection between the ink reservoir-mounting portion 50 and the printhead mounting-portion 52 permits easy access to the printheads 32a-d for maintenance, service, or replacement. In particular, the carriage 30 can be positioned along the guide rod 40 to permit easy access to the carriage 30 through an access door 94 (FIG. 1) in the chassis 26 of the printer 20.

With the carriage 30 so positioned, the [service]servicer lifts the ink reservoir-mounting portion 50 causing it to pivot about pivot point 56 and move to the open position 60, thereby exposing the printhead mounting-portion 52 and providing access to the printheads 32a-d.

In the paragraph beginning on page 9, line 21:

As best shown in FIG. 10, in order to prevent the ink reservoir-mounting portion 50 from inadvertently falling out of its open position 60 during maintenance, a resistive detent 108 may be positioned in one of the ink reservoir-mounting portion 50 or the printhead mounting-portion 52. The resistive detent 108 operably engages a tab 110 extending from the other of the ink reservoir-mounting portion 50 or the printhead mounting-portion 52 when the ink reservoir-mounting portion 50 is in its open position 60, thereby holding the ink reservoir-mounting portion 50 in place.

In the paragraph beginning on page 9, line 29:

Preferably, a latching mechanism 112 is provided to secure the ink reservoir-mounting portion 50 in its engaged position 58 (FIG. 2). Moreover, because of the relatively large forces associated with deflecting the rods 98 of the [ink flow valves]spring-loaded plungers out of their neutral positions, it is desirable that the latching mechanism 112 operate as a lever, thereby minimizing the amount of force required by a user to secure the lever. As best shown in FIG. 12, the latching mechanism 112 preferably includes a handle 114 pivotally secured to the ink reservoir-mounting portion 50 at a pivot 116 such that the handle 114 defines a lever arm 118 on one side of the pivot 116 and a moment arm 120 on the other side of the pivot 116. A left and right joining arm 122a, 122b, respectively, are pivotally secured to the moment

arm120 at a point spaced apart for the pivot 116. The opposite ends 124 of the joining arms 122a, 122b include openings 126 for receiving hooks 128 extending from the printhead mounting-portion 52.

In the next two paragraphs beginning on page 11, line 18:

The rearward-mounting end 142 of the ink reservoirs 24a, 24b preferably includes left and right rearward mounting end guides 158a, 158b sized to slidably engage respective mating slots 160a, 160b received on the respective side walls of the ink reservoir chambers 80a, 80b. A lever 162, operably secured toward the lower portion 164 of the rearward-mounting end 142 of the ink reservoirs 24a, 24b is biased to an extended position 166 (shown in FIG. 2). The lever_162 includes a notch 168 extending therefrom for operably engaging a lip 170 (FIG. 5) on the forward flange 72 of the ink reservoir-mounting portion 50, thereby detachably securing the ink reservoirs 24a, 24b to the ink reservoir mounting-portion 50.

Each ink reservoir 24a, 24b is installed into its respective ink reservoir chamber 80a, 80b by the installer first placing the toe end 140 into the respective ink reservoir chamber 80a, 80b such that the left and right toe-end guides 146a, 146b slidably engage guide rails 150. The user slides the toe end 140 of the ink reservoir 24a, 24b toward the toe-end guide receptacles_152. When the toe-end guides 146a, 146b are seated in their respective receptacle 152, the user then presses down on the upper surface 172 of the ink reservoir 24a, 24b toward the rearward-mounting end 142, causing the left and right rearward mounting end guides 158a, 158b to slidably engage their respective mating slots 160a, 160b, and thereby properly positing the ink reservoirs 24a, 24b into their respective ink reservoir chambers 80a, 80b.

In the paragraph beginning on page 12, line 17:

However, if an installer attempts to install an ink reservoir 24a, 24b in another manner besides using the toe-heel installation process, the cover 180 blocks the toe end 140 of the ink reservoir 24a, 24b from entering the respective ink reservoir chambers 80a, 80b, thereby alerting the installer of the improper installation. For example, if an installer would first attempt to secure the notch 168 extending from the lever 162 to the lip 170 on the forward flange 72, and then attempt to lower the toe end 140 of the ink reservoir 24a, 24b into the respective ink reservoir chamber 80a, 80b, the mounting portion cover 180 blocks the toe end 140 of the ink reservoir 24a, 24b

from entering the respective ink chamber 80a, 80b, thereby alerting the installer of the improper installation method. Similarly, if the installer attempts insert an ink reservoir 24a, 24b into the ink reservoir chamber 80a, 80b simply by maintaining the bottom surface 190 of the ink reservoir parallel to the lower surface 192_of the respective ink reservoir chamber 80a, 80b, the mounting portion cover_180 blocks the toe end 140 of the ink reservoir 24a, 24b from entering into the respective ink reservoir chambers 80a, 80b.

In the paragraph beginning on page 14, line 16:

Also, should an installer improperly latch the lever_162 as described, the spring 210 will urge the rearward-mounting end 142 of the ink reservoir 24a upward, thereby visually alerting the user of the improper installation. Preferably, the printer chassis 26 includes defined stops (not shown) that operably engage the rearward-mounting end 142 when the ink reservoir 24a is in its uninstalled position 212 shown in FIG. 5. The location of the carriage 30 when the rearward-mounting end 142 contacts these stops can then be used to signal the user of the improper ink reservoir 24a installation via a computer interface, warning light, or the like.

In the paragraph beginning on page 14, line 27:

In general, each detachable printer component, such as the ink reservoirs 24a, 24b shown in FIG. 2, includes a unique pattern of identifying tabs 220a-f extending therefrom. For example, the left ink reservoir 24a includes tabs 220a-c, two of which are to the left of the left ink reservoir's lever 162, and the right ink reservoir 24b includes tabs 220d-f, two of which are to the right of the right ink reservoir's lever_162. This pattern of tabs 220a-f can be used to indicate the type, color, and/or quality of ink contained that particular printer. For example, the tab pattern for the left ink reservoir 24a can indicate that it contains black ink, and the tab pattern displayed on the right ink reservoir 24b can indicate that the right ink reservoir is a multi-chamber reservoir containing blue, magenta, and yellow colored ink.

Attachment B to Amendment
(Redlined amendments to claims)

1. (Amended) A mechanism for ensuring correct installation of a detachable printer component into a printer comprising:

a detachable printer component having a top surface, a toe-end and a back end;

a mount secured to the printer for detachably receiving the printer component by operably engaging said toe-end and said back end of said detachable printer component; and,

a cover operably secured to said mount extending partially over said toe-end of said detachable printer component when said detachable printer component is secured to said mount defining a neutral position of the cover with respect to the mount such that in order to allow said toe-end to operably engage said mount, said toe-end must be positioned under said cover such that said top surface operably engages said cover before said back end is secured to said mount.

9. (Amended) [The mechanism for ensuring correct installation of a detachable printer component of claim 8,] A mechanism for ensuring correct installation of a detachable printer component into a printer comprising:

a detachable printer component having a toe-end and a back end;

a mount secured to the printer for detachably receiving the printer component by operably engaging said toe-end and said back end of said detachable printer component; and,

a cover operably secured to said mount extending partially over said toe-end of said detachable printer component when said detachable printer component is secured to said mount defining a neutral position of the cover with respect to the mount such that in order to allow said toe-end to operably engage said mount, said toe-end must be positioned under said cover before said back end is secured to said mount.

wherein said cover is pivotally secured to said mount at a pivot point and able to deflect slightly out of the cover's engaged position to facilitate installation of said detachable printer component and said cover is biased to said cover's neutral position with a beam spring extending between said cover and said mount.

10. (Amended) [The mechanism for ensuring correct installation of a detachable printer component of claim 1, wherein]A mechanism for ensuring correct installation of a detachable printer component into a printer comprising:

a detachable printer component having a toe-end and a back end;

a mount secured to the printer for detachably receiving the printer component by operably engaging said toe-end and said back end of said detachable printer component; and,

a cover operably secured to said mount extending partially over said toe-end of said detachable printer component when said detachable printer component is secured to said mount defining a neutral position of the cover with respect to the mount such that in order to allow said toe-end to operably engage said mount, said toe-end must be positioned under said cover before said back end is secured to said mount,

wherein said cover is a visually distinguishable color from the color of said mount.

11. (Amended) An inkjet printer comprising;

a chassis;

a motor;

a carriage operably secured to the chassis and driven by the motor for reciprocal movement relative to the chassis;

a detachable ink reservoir having a top surface, a toe-end and a back end;

a printhead operably secured to the carriage, in fluid communication with said ink reservoir, and in electrical communication with a controller;

a mount secured to said carriage for detachably receiving said ink reservoir in an ink reservoir chamber by operably engaging said toe-end and said back end of said detachable printer component; and,

a cover operably secured to said mount extending partially over said ink reservoir chamber such that in order to allow said toe-end to operably engage said mount, said toe-end must be positioned under said cover such that said top surface engages said cover and within said ink reservoir chamber before said back end is secured to said mount.

12. (Amended) The inkjet printer of claim 11, wherein said cover includes a substantially planar [top] surface having an angled leading edge lip for operably engaging the toe-end of said ink reservoir during installation.

15. (Amended) [The inkjet printer of claim 11,] An inkjet printer comprising:

a chassis;

a motor;

a carriage operably secured to the chassis and driven by the motor for reciprocal movement relative to the chassis;

a detachable ink reservoir having a toe-end and a back end;

a printhead operably secured to the carriage, in fluid communication with said ink reservoir, and in electrical communication with a controller;

a mount secured to said carriage for detachably receiving said ink reservoir in an ink reservoir chamber by operably engaging said toe-end and said back end of said detachable printer component; and,

a cover operably secured to said mount extending partially over said ink reservoir chamber such that in order to allow said toe-end to operably engage said

mount, said toe-end must be positioned under said cover and within said ink reservoir chamber before said back end is secured to said mount;

wherein said cover is a visually distinguishable color from the color of said mount.

Attachment C to Amendment
(Redlined and formal replacement drawing sheets 6 and 7)